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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/057,797 | 10/29/2001 | Arthur L. Cleary | 3128.1001-001 | 9380 |

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| EXAMINER |
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HAUGLAND, SCOTT J

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| ART UNIT | PAPER NUMBER |
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3654

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|-------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/057,797 | Applicant(s) CLEARY ET AL. | |
| | Examiner Scott Haugland | Art Unit 3654 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-15, 17 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-15, 17 and 19-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2-15, 17, and 19-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no disclosure in the specification that the holes in the top surface of the vacuum table are substantially regular as recited in claim 21, line 4 and claim 23, line 5.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-15, 17, and 19-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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It is not clear from the disclosure what is meant by the language "substantially regular holes" in claim 21, line 4 and claim 23, line 5. The term could be applied to holes having uniform size, spacing, distribution, etc. However, the disclosure is silent as to the size, spacing, and distribution of the holes. Therefore, it is not clear what characteristic of the holes the term "regular" refers to.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 3, 17, 19-21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yraceburu et al (U.S. Patent No. 6,409,332).

Yraceburu et al discloses an apparatus and method for transporting a substrate 16 in a printing system including a transport belt 32 having a plurality of holes, a vacuum table 307 having a flat top surface (top of 323 or 318) which generates a vacuum with a vacuum pump motor 303, and a porous sheet 318 or 311 positioned between the belt 32 and the vacuum table 307 for restricting fluid flow between the table 307 and the belt 32 so that when a narrow or small sheet of substrate 16 is transported, the flow is restricted due to the porous sheet. The elements 323, 318 (317) can be made from a number of different materials (col. 6, lines 16-32) including "sintered materials such as of plastic or metals". The holes in elements 323, 318 are seen to be

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substantially regular since they are specified as being either coarse or fine (col. 6, lines 6-10) which implies a degree of uniformity or regularity in the size or distribution of holes.

With regard to claims 2 and 17, note that Yraceburu et al discloses a level of vacuum in the claimed range at col. 6, lines 30-32.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yraceburu et al (U.S. Patent No. 6,409,332).

With regard to claims 4-6, Yraceburu et al discloses all of the claimed subject matter as set forth above except for the vacuum sensor and the CPU coupled to the vacuum sensor and vacuum pump to maintain the vacuum level constant.

Simple control systems for vacuum pump systems including a vacuum sensor and CPU designed to control the motor of the vacuum pump to provide a constant vacuum pressure are well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yraceburu et al with a simple control system including a

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vacuum sensor and CPU to control the vacuum pump motor to maintain the vacuum constant in the vacuum table 307 as is well known in the art.

With regard to claims 7-9 and 12-13, Yraceburu et al does not disclose that the transport belt is made from woven polyester or polyurethane having a thickness of about 0.09 inch or stainless steel with a thickness of about 0.008 inch.

Vacuum transport belts being made of woven polyester and polyurethane and stainless steel are well known in the art for their durability and long life.

It would have been obvious to one having ordinary skill in the art to provide Yraceburu et al with a vacuum transport belt made of woven polyester, polyurethane, or stainless steel and having a thickness of about 0.09 inch or 0.008 inch, respectively, because of their well known durability and long life.

With regard to claims 10 and 11, the holes in transport belt 32 appear to be "about" 0.1 inch in diameter and spaced "about" 1 inch since they would be compatible with the platen holes. Assuming they are not, the claimed dimensions would have been obvious since it would have been within the level of skill of an ordinary artisan to arrive at these dimensions to adapt the apparatus for a particular printer application as suggested by Yraceburu et al at col. 4, lines 11-39.

With regard to claims 14-15, Yraceburu et al does not disclose that the porous sheet 317 is made specifically out of sintered, porous polyethylene having a thickness of about 0.5 inch. Yraceburu et al does disclose that the porous sheet 317 can be made from a number of different materials (col. 6, lines 16-32) including "sintered

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materials such as of plastic or metals". Polyethylene is well known for its durability and ease of manufacture.

It would have been obvious to one of ordinary skill in the art to provide Yraceburu et al with a porous sheet made out of sintered, porous polyethylene having a thickness of about 0.5 inch because of its durability and ease of manufacture and its ability to act as a filter in accordance with the specification of Yraceburu et al.

Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yraceburu et al as applied to claims 21 and 23 above, and further in view of Ju (U.S. Patent No. 5,806,992).

Yraceburu et al does not disclose an indicator that detects the thickness of the substrate.

Ju teaches providing an ink jet printing system for printing on a substrate with a substrate thickness detector 128, 136, 136, 140 that provides a signal used to adjust a gap between a print head and a platen so that the proper spacing is maintained between the head and substrate during printing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yraceburu et al with an indicator that detects the thickness of the substrate as taught by Ju to maintain the proper gap between the substrate and print head.

Response to Arguments

Applicants' argue that filter material 323 of Yraceburu et al does not meet the limitation of a substantially flat top surface of the vacuum table of claims 21 and 23 and that it does not have a plurality of substantially regular holes extending through it as claimed.

However, layer 318 or 323 clearly forms a top surface of the vacuum table (whose base is 307) (note Fig. 3 of Yraceburu et al). As discussed above in the rejection of claims 21 and 23, the holes in layers 318 and 323 can be considered regular since they are required to be either coarse or fine (throughout the layer). Contrary to Applicants' assertion, the requirement that layer 323 is densely-packed does not imply that its holes are not substantially regular. The entire filter is densely-packed and, thus, has uniform or regular holes. In addition, layer 318, which is not densely-packed, forms the top surface of a vacuum table the lower portion of which includes 307 and 323.

Applicants argue that element 311 of Yraceburu et al could not be interpreted as the claimed thin substantially flat porous sheet over the top surface of the vacuum table recited in claims 21 and 23.

However, "thin" is a relative term and the disclosure of Yraceburu et al indicates that platen 311 is thin. Note that the diameter of holes 315 in the platen 311 is roughly the same as the thickness of platen 311 (Fig. 3) and the width and length of the platen 311 is significantly larger than the diameter of holes 315 (Fig. 3A) and, thus, significantly larger than the thickness of the platen. Since the thickness of the platen 311 is small

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relative to its width and length, it comprises a thin sheet as required by the claims. The use of the term "thin" in the claims could also be interpreted as requiring that the porous sheet have a thickness that is sufficiently small to provide an operative device and this is clearly the intent of Yraceburu et al.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571) 272-6945. The examiner can normally be reached on Monday - Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


sjh
5/17/05



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